

WHAT IS CLAIMED IS:

1. A method for adjusting the current limit in a power supply, comprising the step of:
identifying the voltage level of the input line to the power supply; and
5 setting a current limit at the output of the power supply;
wherein the current limit at the output of the power supply is set in relation to the
voltage level of the input line to the power supply such that the current limit is set at a lower level
when the voltage level of the input line is at a lower level.
- 10 2. The method for adjusting the current limit in a power supply of claim 1, further
comprising the step of adjusting the current limit at the output of the power supply in response to a
change in the voltage level of the input line to the power supply.
- 15 3. The method for adjusting the current limit in a power supply of claim 1, wherein the
step of identifying the voltage level of the input line comprises the steps of:
rectifying the input line voltage; and
comparing the rectified input line voltage to a first reference voltage.
- 20 4. The method for adjusting the current limit in a power supply of claim 3, wherein the
step of identifying the voltage level of the input line further comprises the step of producing an
intermediate value that is representative of the voltage level of the input line.
- 25 5. The method for adjusting the current limit in a power supply of claim 4, wherein the
step of setting a current limit at the output of the power supply comprises the step of setting an
overcurrent set point on the basis of the intermediate value.

6. The method for adjusting the current limit in a power supply of claim 5, wherein the step of setting an overcurrent set point comprises the steps of:

converting the intermediate value to a digital value representative of the voltage level of the input line; and

5 comparing the digital value to a second reference voltage to produce a signal comprising the overcurrent set point.

7. The method for adjusting the current limit in a power supply of claim 6, wherein the step of converting the intermediate value to a digital value representative of the voltage level of the
10 input line comprises the steps of:

converting the intermediate value from an analog signal to an intermediate digital value;

setting the resistance level of a potentiometer in relation to the intermediate digital value; and

15 producing the digital value by applying a voltage divider to the second reference voltage, wherein the resistance level of the potentiometer is used to produce a voltage drop in the voltage divider.

8. The method for adjusting the current limit in a power supply of claim 6, further
20 comprising the step of providing the overcurrent set point signal to a controller of the power supply.

9. A system for adjusting the current limit of a power supply in relation to the voltage characteristics of an input line, comprising:

a voltage identification module coupled to the input line, the peak detection unit providing an output signal representative of the voltage level of the input line; and

5 a current limit module that receives the output signal of the voltage identification module as an input and provides as an output a current limit signal that has a value that is related to the voltage characteristics of the input line.

10. The system for adjusting the current limit of a power supply of claim 9, wherein the
10 voltage identification module comprises a peak detection circuit providing an output signal that is representative of the voltage level of the input line.

11. The system for adjusting the current limit of a power supply of claim 10, wherein the
15 peak detection circuit comprises an amplifier whose output is a signal that is representative of the difference between a rectified voltage level from the input line and a reference voltage.

12. The system for adjusting the current limit of a power supply of claim 9, wherein the
voltage identification module further comprises a converter for converting the output of the peak
detection circuit to a digital signal representative of the voltage level of the input line.

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13. The system for adjusting the current limit of a power supply of claim 9, wherein the
current limit module comprises:

a variable resistor, the resistance value of which is set on the basis of the value of the
output signal from the voltage identification module; and

25 an amplifier that produces a current limit signal from a comparison to the difference
between a reference voltage and a second voltage that is related to the reference voltage by the
voltage drop across the variable resistor.

14. The system for adjusting the current limit of a power supply of claim 13, wherein the variable resistor comprises a digital potentiometer.

5 15. The system for adjusting the current limit of a power supply of claim 13, wherein the current limit signal is provided to a controller of the power supply.

16. A method for adjusting the current limit of a power supply, comprising the steps of:
identifying the voltage level of the input line to the power supply; and
establishing a current limit signal in relation to a maximum current limit associated
with the voltage level of the input line.

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17. The method for adjusting the current limit of a power supply of claim 16, further
comprising the step of providing the current limit signal to a controller of the power supply.

18. The method for adjusting the current limit of a power supply of claim 16, wherein the
10 step of identifying the voltage level of the input line comprises the steps of:
performing a rectification function on the input line; and
comparing the input line to a first reference voltage to produce a first intermediate
signal representative of the voltage level of the input line.

19. The method for adjusting the current limit of a power supply of claim 18, wherein the
15 steps of identifying the voltage level of the input line further comprise the step of converting the first
intermediate signal from an analog signal to a digital signal.

20. The method for adjusting the current limit of a power supply of claim 19, wherein the
20 step of establishing a current limit signal comprises the step of producing a current limit signal from
a comparison of a second reference voltage and an intermediate voltage potential derived from
applying a voltage drop across a variable resistor.